Pushing the Envelope			
2004 Mathematics			
Grade Level Expectations			
Louisiana Mathematics			
Grade 5			
Activity/Lesson	**State**	**Standards**	
History of Aviation Propulsion (pgs. 5-9)	LA	MA.5.20	Identify appropriate tools and units with which to measure time, mass, weight, temperature, and length
History of Aviation Propulsion (pgs. 5-9)	LA	MA.5.23	Convert between units of measurement for length, weight, and time, in U.S. and metric, within the same system
Types of Engines (pgs. 11-23)	LA	MA.5.18	Estimate time, temperature, weight/mass, and length in familiar situations and explain the reasonableness of answers
Types of Engines (pgs. 11-23)	LA	MA.5.19	Compare the relative sizes of common units for time, temperature, weight, mass, and length in real-life situations
Types of Engines (pgs. 11-23)	LA	MA.5.20	Identify appropriate tools and units with which to measure time, mass, weight, temperature, and length
Chemistry (pgs. 25-41)	LA	MA.5.18	Estimate time, temperature, weight/mass, and length in familiar situations and explain the reasonableness of answers
Chemistry (pgs. 25-41)	LA	MA.5.19	Compare the relative sizes of common units for time, temperature, weight, mass, and length in real-life situations
Chemistry (pgs. 25-41)	LA	MA.5.20	Identify appropriate tools and units with which to measure time, mass, weight, temperature, and length
Physics and Math (pgs. 43-63)	LA	MA.5.11	Explain concepts of ratios and equivalent ratios using models and pictures in real-life problems (e.g., understand that 2/3 means 2 divided by 3)
Pushing the Envelope			
2004 Mathematics			
Grade Level Expectations			
Louisiana Mathematics			
Grade 6			
Activity/Lesson	**State**	**Standards**	
Physics and Math (pgs. 43-63)	LA	MA.6.13	Use models and pictures to explain concepts or solve problems involving ratio, proportion, and percent with whole numbers
Pushing the Envelope			
2004 Mathematics			
Grade Level Expectations			
Louisiana Mathematics			
Grade 7			
Activity/Lesson	**State**	**Standards**	

Types of Engines (pgs. 11-23)	LA	MA.7.21	Compare and order measurements within and between the U.S. and metric systems in terms of common reference points (e.g., weight/mass and area)
Physics and Math (pgs. 43-63)	LA	MA.7.10	Determine and apply rates and ratios
Physics and Math (pgs. 43-63)	LA	MA.7.16	Solve one- and two-step equations and inequalities (with one variable) in multiple ways
Physics and Math (pgs. 43-63)	LA	MA.7.18	Describe linear, multiplicative, or changing growth relationships (e.g., 1, 3, 6, 10, 15, 21, …) verbally and algebraically
Pushing the Envelope			
2004 Mathematics			
Grade Level Expectations			
Louisiana Mathematics			
Grade 8			
Activity/Lesson	**State**	**Standards**	
Chemistry (pgs. 25-41)	LA	MA.8.17	Determine the volume and surface area of prisms and cylinders
Chemistry (pgs. 25-41)	LA	MA.8.19	Demonstrate an intuitive sense of the relative sizes of common units of volume in relation to real-life applications and use this sense when estimating
Chemistry (pgs. 25-41)	LA	MA.8.22	Convert units of volume/capacity within systems for U.S. and metric units
Chemistry (pgs. 25-41)	LA	MA.8.47	Represent the nth term in a pattern as a formula and test the representation
Physics and Math (pgs. 43-63)	LA	MA.8.13	Switch between functions represented as tables, equations, graphs, and verbal representations, with and without technology
Physics and Math (pgs. 43-63)	LA	MA.8.15	Describe and compare situations with constant or varying rates of change
Physics and Math (pgs. 43-63)	LA	MA.8.16	Explain and formulate generalizations about how a change in one variable results in a change in another variable
Physics and Math (pgs. 43-63)	LA	MA.8.47	Represent the nth term in a pattern as a formula and test the representation
Rocket Activity (pgs. 69-75)	LA	MA.8.47	Represent the nth term in a pattern as a formula and test the representation
Pushing the Envelope			
2004 Mathematics			
Grade Level Expectations			
Louisiana Mathematics			
Grade 9			
Activity/Lesson	**State**	**Standards**	
Physics and Math (pgs. 43-63)	LA	MA.9.12	Evaluate polynomial expressions for given values of the variable
Physics and Math (pgs. 43-63)	LA	MA.9.15	Translate among tabular, graphical, and algebraic representations of functions and real-life situations

Physics and Math (pgs. 43-63)	LA	MA.9.23	Use coordinate methods to solve and interpret problems (e.g., slope as rate of change, intercept as initial value, intersection as common solution, midpoint as equidistant)
Physics and Math (pgs. 43-63)	LA	MA.9.25	Explain slope as a representation of “rate of change”
Physics and Math (pgs. 43-63)	LA	MA.9.39	Compare and contrast linear functions algebraically in terms of their rates of change and intercepts
Physics and Math (pgs. 43-63)	LA	MA.9.40	Explain how the graph of a linear function changes as the coefficients or constants are changed in the function’s symbolic representation
Pushing the Envelope			
2004 Mathematics			
Grade Level Expectations			
Louisiana Mathematics			
Grade 10			
Activity/Lesson	**State**	**Standards**	
Chemistry (pgs. 25-41)	LA	MA.10.7	Find volume and surface area of pyramids, spheres, and cones
Physics and Math (pgs. 43-63)	LA	MA.10.3	Define sine, cosine, and tangent in ratio form and calculate them using technology
Physics and Math (pgs. 43-63)	LA	MA.10.4	Use ratios and proportional reasoning to solve a variety of real-life problems including similar figures and scale drawings